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09/829,772	04/10/2001	Klas C. Haglid	33152-2040	2771

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EXAMINER

FORD, JOHN K

ART UNIT PAPER NUMBER

3753

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/829,772

Applicant(s)

Haglid. *he*

Examiner

FORD

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 9/25/03
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 1-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claims 23-31 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6

- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

Applicant's election of Group IV, claims 23-31, without traverse, is acknowledged. The Examiner does not believe the same rejections apply to claims 12-22 (where process limitations must be given weight) as apply to claims 23-31 (where the final article is being examined) and the invitation to examine claims 12-22 is declined.

This application contains claims directed to the following patentably distinct species of the claimed invention: first species of panel 40 of Figure 2 and second species of panel 88 of Figure 4 and first species of starting material comprising "sign board" (hollow passages between the major faces) and second species of starting material of solid material (no hollow passages between the major faces) and first species of indentation from one side (as shown in Figure 6) and second species of indentation from both sides (as shown in Figures 5 and 13).

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

To fully comply with the above election requirement one species of panel must be elected and one species of starting material must be elected an one species of indentation must be elected and those three elections must be consistent with one another such that the elected species is fully supported by the original disclosure in a

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disclosed embodiment which has a particular panel structure, made of a particular starting material and the particular indentation.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23,25,26, 28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Morgans et al. (6B 1354502).

A series of plastic sheets having "indentations" 5 and "gas flow conduit structures" 6 are shown in Figure 2. The panels are interleaved and assembled as claimed. There is no limitation in the claims that the "indentation forming a gas flow passage cavity" need be necessarily different from a structure forming "at least one gas flow conduit structure" This interpretation is confirmed by claim 30 which explicitly provides that the "gas flow conduit structure" can be "at least one indentation forming a gas flow cavity".

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-26,28,30 and 31 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 4-313693.

It is believed that JP '693 is made of plastic based on the "hatching" used in the drawing Figures, which in United States convention, MPEP 608.02, shows it to be "synthetic resin or plastic". Even if it was not, to have made it of plastic would have been obvious given its conventionality in this art for purposes of securing an inexpensive structure with high corrosion resistance.

Claims 23-26,28,30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 4-313693 in view of DT 2,425,261 or SZUCS.

JP'693 is described above. To have fabricated it of a thermoplastic material as taught by DT'261 or SZUCS to improve its corrosion resistance and provide an inexpensive material (relative to metal) to make it from would have been obvious.

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Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claim 23 above, and further in view of JP 57-1731.

To have used expanded plastic as taught by JP 57-1731 to further reduce material costs would have been obvious to one of ordinary skill in the art.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morgans et al. (GB'502) as applied to claim 23 above, and further in view of Stancliffe et al. (USP 1,662,870).

Comparing Figure 1 and Figure 6 of Stancliffe the art recognized equivalence of plates indented on one side (Fig 1) and indented on both sides (Fig 6) to form a plate heat exchanger is taught. To have indented the plates of Morgan from both sides would have been obvious from the teachings of Stancliffe to improve flow. Alternatively, to have made Stancliffe (Fig 6) of plastic to improve corrosion resistance would have been obvious.

Claims 23, 27 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 89/05433.

The areas denoted "E" in Figure 4 are indentations.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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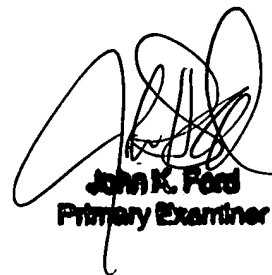
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23,27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Allen US 4,461,344 and JP 4-313693.

Allen teaches an air-to-air heat exchanger having first cellular sheets 14 and spacer sheets 16 and 19 to have replaced spacer sheets 16 and 19 with a continuous sheet such as taught by JP'693 to improve the rate of heat exchanger in that passageway would have been obvious to improve heat exchange and improve the ease of assembly of the core.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication should be directed to John Ford at telephone number 703-308-2636.



**John K. Ford**  
Primary Examiner